



Univar  
3075 Highland Pkwy STE 200  
Downers Grove, IL 60515  
425-889-3400

## SAFETY DATA SHEET

### 1. Identification

**Product identifier:** - HYDROFLUOSILICIC ACID SOLUTION

**Other means of identification**

**Synonyms:** Fluorosilicic Acid, HFS

**SDS number:** 000100000681

**Recommended use and restriction on use**

**Recommended use:** Not available.

**Restrictions on use:** Not known.

**Emergency telephone number:** For emergency assistance Involving chemicals

call CHEMTREC day or night at: 1-800-424-9300. CHEMTREC INTERNATIONAL Tel# 703-527-3887

### 2. Hazard(s) Identification

**Hazard classification**

**Health hazards**

Acute toxicity (Oral) Category 4

Skin corrosion/irritation Category 1A

Serious eye damage/eye irritation Category 1

**Label elements**

**Hazard symbol**



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**Signal word** Danger**Hazard statement** Corrosive.  
Harmful if swallowed.  
Harmful if inhaled.  
Causes severe skin burns and eye damage.  
May cause irritation to the respiratory system.**Precautionary statement****Prevention** Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Do not breathe dust or mists. Wear protective gloves/protective clothing/eye protection/face protection.**Response** IF INHALED: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. IF SWALLOWED: Call a POISON CENTER/doctor/ if you feel unwell. Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER/doctor. Specific treatment (see this label). Wash contaminated clothing before reuse.**Storage** Keep container tightly closed. Store in a well-ventilated place. Store locked up.**Disposal** Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.**Other hazards which do not result in GHS classification**

None.

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### 3. Composition/information on ingredients

#### Mixtures

Chemical identity	Common name and synonyms	CAS number	Content in percent (%)*
Silicate(2-), hexafluoro-, hydrogen (1:2)		16961-83-4	23 - <40%
Hydrofluoric acid		7664-39-3	<1%
Water		7732-18-5	0 - <=5%

\* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

### 4. First-aid measures

<b>Ingestion:</b>	Do NOT induce vomiting. Never give liquid to an unconscious person. Get medical attention immediately.
<b>Inhalation:</b>	Move to fresh air. If breathing is difficult, give oxygen. Perform artificial respiration if breathing has stopped.
<b>Skin contact:</b>	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention.
<b>Eye contact:</b>	If in eyes, hold eyes open, flood with water for at least 15 minutes and see a doctor.
<b>Most important symptoms/effects, acute and delayed</b>	
<b>Symptoms:</b>	No data available.

#### Indication of immediate medical attention and special treatment needed

**Treatment:** No data available.

### 5. Fire-fighting measures

**General fire hazards:** No data available.

#### Suitable (and unsuitable) extinguishing media

**Suitable extinguishing media:** Use fire-extinguishing media appropriate for surrounding materials.

**Unsuitable extinguishing media:** No data available.

**Specific hazards arising from the chemical:** No data available.

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**Special protective equipment and precautions for firefighters**

Special fire fighting procedures: No data available.

Special protective equipment for fire-fighters: No data available.

**6. Accidental release measures**

Personal precautions, protective equipment and emergency procedures: No data available.

Methods and material for containment and cleaning up: Absorb spillage with non-combustible, absorbent material. Dike for later disposal.

**7. Handling and storage**

Precautions for safe handling: Avoid breathing mists or vapors. Do not get in eyes, on skin, on clothing. Use only with adequate ventilation. Store away from incompatible materials.

Conditions for safe storage, including any incompatibilities: No data available.

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## 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

Chemical identity	Type	Exposure Limit values	Source
Silicate(2-), hexafluoro-, hydrogen (1:2) - as F	TWA	2.5 mg/m <sup>3</sup>	US. ACGIH Threshold Limit Values (03 2013)
	REL	2.5 mg/m <sup>3</sup>	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	PEL	2.5 mg/m <sup>3</sup>	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	TWA	2.5 mg/m <sup>3</sup>	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
Silicate(2-), hexafluoro-, hydrogen (1:2) - Dust.	TWA	2.5 mg/m <sup>3</sup>	US. OSHA Table Z-2 (29 CFR 1910.1000) (02 2006)
Silicate(2-), hexafluoro-, hydrogen (1:2) - as F	TWA	2.5 mg/m <sup>3</sup>	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008)
Silicate(2-), hexafluoro-, hydrogen (1:2)	ST ESL	17 µg/m <sup>3</sup>	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)
	ST ESL	21 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)
	ST ESL	22 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)
	AN ESL	8.1 µg/m <sup>3</sup>	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)
	AN ESL	8.7 µg/m <sup>3</sup>	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)
	AN ESL	0.71 µg/m <sup>3</sup>	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)
	AN ESL	0.75 µg/m <sup>3</sup>	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)

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			Quality) (02 2013)
	AN ESL	11 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)
	AN ESL	0.87 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)
	AN ESL	0.91 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)
	AN ESL	9.9 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)
	ST ESL	18 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)
	ST ESL	2.8 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)
	ST ESL	3.4 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)
	AN ESL	0.7 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)
	AN ESL	0.57 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)
Silicate(2-), hexafluoro-, hydrogen (1:2) - as F	TWA PEL	2.5 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (02 2012)
Hydrofluoric acid - as F	TWA	0.5 ppm	US. ACGIH Threshold Limit Values (03 2013)
	Ceiling	2 ppm	US. ACGIH Threshold Limit Values (03 2013)
Hydrofluoric acid	REL	3 ppm 2.5 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	Ceiling	6 ppm 5 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)

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Hydrofluoric acid - as F	PEL	2.5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	TWA	3 ppm	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	STEL	6 ppm	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
Hydrofluoric acid	TWA	3 ppm	US. OSHA Table Z-2 (29 CFR 1910.1000) (02 2006)
Hydrofluoric acid - as F	STEL	6 ppm	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008)
	TWA	3 ppm	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008)
Hydrofluoric acid	ST ESL	22 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)
	AN ESL	8.7 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)
	AN ESL	11 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)
	AN ESL	0.91 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)
	ST ESL	18 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)
	AN ESL	0.75 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)
	ST ESL	3 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)
	ST ESL	3.7 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)
	AN ESL	0.6 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)

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			Quality) (02 2013)
	AN ESL	0.73 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)
Hydrofluoric acid - as F	TWA PEL	0.4 ppm 0.33 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (02 2012)
	STEL	1 ppm 0.83 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (02 2012)

**Biological limit values**

Chemical Identity	Exposure Limit values	Source
Silicate(2-), hexafluoro-, hydrogen (1:2) (Fluoride: Sampling time: Prior to shift.)	2 mg/l (Urine)	ACGIH BEL (03 2013)
Silicate(2-), hexafluoro-, hydrogen (1:2) (Fluoride: Sampling time: End of shift.)	3 mg/l (Urine)	ACGIH BEL (03 2013)
Hydrofluoric acid (Fluoride: Sampling time: Prior to shift.)	2 mg/l (Urine)	ACGIH BEL (03 2013)
Hydrofluoric acid (Fluoride: Sampling time: End of shift.)	3 mg/l (Urine)	ACGIH BEL (03 2013)

**Appropriate engineering controls** No data available.

**Individual protection measures, such as personal protective equipment**

**General information:** No data available.

**Eye/face protection:** No data available.

**Skin protection**

**Hand protection:** No data available.

**Other:** No data available.

**Respiratory protection:** No data available.

**Hygiene measures:** No data available.



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## 9. Physical and chemical properties

Physical state:	Liquid
Form:	No data available.
Color:	No data available.
Odor:	No data available.
Odor threshold:	No data available.
pH:	1
Melting point/freezing point:	No data available.
Initial boiling point and boiling range:	18 - 100 °C
Flash Point:	No data available.
Evaporation rate:	No data available.
Flammability (solid, gas):	No data available.
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	No data available.
Vapor density:	No data available.
Relative density:	No data available.
Solubility(ies)	
Solubility in water:	No data available.
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

## 10. Stability and reactivity

Reactivity: No data available.

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**Chemical stability:** No data available.  
**Possibility of hazardous reactions:** No data available.  
**Conditions to avoid:** No data available.  
**Incompatible materials:** No data available.  
**Hazardous decomposition products:** No data available.

#### 11. Toxicological information

##### Symptoms related to the physical, chemical and toxicological characteristics

**Ingestion:** No data available.  
**Inhalation:** No data available.  
**Skin contact:** No data available.  
**Eye contact:** No data available.

##### Information on toxicological effects

###### Acute toxicity (list all possible routes of exposure)

###### Oral

**Product:** ATEmix ( ): 452.631579 mg/kg

###### Dermal

**Product:** No data available.

###### Inhalation

**Product:** No data available.

##### Specified substance(s):

Hydrofluoric acid LC 50 (Monkey, 1 h): 1,780 mg/l

###### Repeated dose toxicity

**Product:** No data available.

###### Skin corrosion/irritation

**Product:** No data available.

###### Serious eye damage/eye irritation

**Product:** No data available.

###### Respiratory or skin sensitization

**Product:** No data available.

###### Carcinogenicity

**Product:** No data available.

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**IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:**

No carcinogenic components identified

**US. National Toxicology Program (NTP) Report on Carcinogens:**

No carcinogenic components identified

**US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):**

No carcinogenic components identified

**Germ cell mutagenicity****In vitro****Product:** No data available.**In vivo****Product:** No data available.**Reproductive toxicity****Product:** No data available.**Specific target organ toxicity - single exposure****Product:** No data available.**Specific target organ toxicity - repeated exposure****Product:** No data available.**Aspiration hazard****Product:** No data available.**Other effects:** No data available.**12. Ecological information****Ecotoxicity:****Acute hazards to the aquatic environment:****Fish****Product:** No data available.**Aquatic invertebrates****Product:** No data available.**Chronic hazards to the aquatic environment:****Fish****Product:** No data available.**Aquatic invertebrates****Product:** No data available.**Toxicity to Aquatic Plants****Product:** No data available.**Persistence and degradability****Biodegradation****Product:** No data available.

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**BOD/COD ratio**

Product: No data available.

**Bioaccumulative potential****Bioconcentration factor (BCF)**

Product: No data available.

**Partition coefficient n-octanol / water (log K<sub>ow</sub>)**

Product: No data available.

Mobility in soil: No data available.

**Known or predicted distribution to environmental compartments**

Hexafluorosilicic acid No data available.

Hydrogen fluoride No data available.

Water No data available.

**Known or predicted distribution to environmental compartments**

Water No data available.

**13. Disposal considerations**

Disposal instructions: No data available.

Contaminated packaging: No data available.

**14. Transport information****DOT**

UN number: UN 1778  
UN proper shipping name: FLUOROSILICIC ACID  
Transport hazard class(es)  
Class: 8  
Label(s): 8  
Packing group: II  
Marine Pollutant: Not regulated.  
Special precautions for user: —

**IMDG**

UN number: UN 1778  
UN proper shipping name: FLUOROSILICIC ACID  
Transport hazard class(es)  
Class: 8  
Label(s): 8  
EmS No.: F-A, S-B  
Packing group: II  
Marine Pollutant: Not regulated.

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Special precautions for user: —

**IATA**

UN number: UN 1778

Proper Shipping Name: FLUOROSILICIC ACID

Transport hazard class(es):

Class: 8

Label(s): 8

Packing group: II

Environmental hazards: Not regulated.

Special precautions for user: —

Other information

Passenger and cargo aircraft: Allowed.

Cargo aircraft only: Allowed.

#### 15. Regulatory information

##### US federal regulations US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

None present or none present in regulated quantities.

##### CERCLA Hazardous Substance List (40 CFR 302.4):

Hydrofluoric acid Reportable quantity: 100 lbs.

##### Superfund amendments and reauthorization act of 1986 (SARA)

###### Hazard categories

Not listed.

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**SARA 302 Extremely hazardous substance**

Chemical Identity	RQ	Threshold Planning Quantity
Hydrofluoric acid	100 lbs.	100 lbs.

**SARA 304 Emergency release notification**

Chemical Identity	RQ
Hydrofluoric acid	100 lbs.

**SARA 311/312 Hazardous chemical**

Chemical Identity	Threshold Planning Quantity
Hydrofluoric acid	100 lbs
Silicate(2-), hexafluoro-, hydrogen (1:2)	500 lbs

**SARA 313 (TRI reporting)**

Chemical Identity	Reporting threshold for other users	Reporting threshold for manufacturing and processing
Hydrofluoric acid	10000 lbs	25000 lbs.

**Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)**

Hydrofluoric acid Reportable quantity: 100 lbs.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):**

Hydrofluoric acid Threshold quantity: 1000 lbs

**US state regulations****US. California Proposition 65**

No ingredient regulated by CA Prop 65 present.

**US. New Jersey Worker and Community Right-to-Know Act**Silicate(2-), hexafluoro-,  
hydrogen (1:2) Listed

Hydrofluoric acid Listed

**US. Massachusetts RTK - Substance List**Silicate(2-), hexafluoro-,  
hydrogen (1:2) Listed

Hydrofluoric acid Listed

**US. Pennsylvania RTK - Hazardous Substances**Silicate(2-), hexafluoro-,  
hydrogen (1:2) Listed

Hydrofluoric acid Listed

**US. Rhode Island RTK**

Hydrofluoric acid Listed

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**Inventory Status:** Australia AICS:

Not in compliance with the inventory.

Canada DSL Inventory List:

Not in compliance with the inventory.

EU EINECS List:

On or in compliance with the inventory

EU ELINCS List:

Not in compliance with the inventory.

Japan (ENCS) List:

Not in compliance with the inventory.

EU No Longer Polymers List:

Not in compliance with the inventory.

China Inv. Existing Chemical Substances:

Not in compliance with the inventory.

Korea Existing Chemicals Inv. (KECI):

Not in compliance with the inventory.

Canada NDSL Inventory:

Not in compliance with the inventory.

Philippines PICCS:

Not in compliance with the inventory.

US TSCA Inventory:

On or in compliance with the inventory

New Zealand Inventory of Chemicals:

Not in compliance with the inventory.

Japan ISHL Listing:

Not in compliance with the inventory.

Japan Pharmacopoeia Listing:

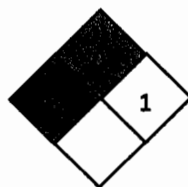
Not in compliance with the inventory.

**16. Other information, including date of preparation or last revision****HMIS Hazard ID**

Health		3
Flammability		0
		0
PERSONAL PROTECTION		B

B - Safety Glasses &amp; Gloves

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; \*Chronic health effect

**NFPA Hazard ID**

	Flammability
	Health
	Reactivity
	Special hazard.

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

**Issue date:**

08/27/2015

**Revision date:**

No data available.

**Version #:**

1.1

**Further Information:**

No data available.

ORDER NO: MV814735

MATERIAL SAFETY DATA SHEET  
CUST: BULK CHEMICALS INC

MSDS NO: 10000681  
VERSION: 002 08/27/15

Version: 1.1  
Revision date: 08/27/2015





## Univar USA Inc Safety Data Sheet

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For Additional Information contact SDS Coordinator during business hours, Pacific time: (425) 889-3400

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